

Bayer MaterialScience

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MR# 351972



February 7, 2013

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Bayer MaterialScience LLC  
100 Bayer Road  
Pittsburgh, PA 15205-9741  
Phone:  
FAX  
e-mail.



**By Certified Mail**

TSCA Confidential Business Information Center (7407M)  
EPA East – Room 6428 Attn: Section 8(e)  
U. S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Subject: TSCA § 8(e)  
Test Substance: Phenol, 4-isocyanato-, 1,1',1"-phosphorothioate

Dear Sir or Madam:

Bayer MaterialScience LLC (the "**Company**") is submitting a Acute Inhalation Toxicity in Rats study of the Test Substance, which the Company imports, processes, and distributes in the United States.

The Company is submitting these data in accordance with our understanding of EPA's interpretation of the requirements of TSCA § 8(e) as expressed in agency guidance. However, the Company has not determined whether these data actually disclose a substantial risk of injury to health or the environment associated with the chemical substance or mixture.

This submission contains TSCA confidential business information ("**CBI**"). Accordingly, the Company is providing both original and redacted versions of this submission to EPA, along with the attached justification of the Company's CBI claims. In keeping with recent guidance from EPA, the Company is not claiming the chemical identity as CBI.



Company Sanitized

Please contact me if you have any questions.

Sincerely,

Attachment

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**TEST SUBSTANCE:** Phenol, 4-isocyanato-, 1,1',1''-phosphorothioate (CAS# 4151-51-3)

**STUDY:** Acute Inhalation Toxicity in Rats

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The purpose of this study was to evaluate the acute inhalation toxicity of the test substance. The study was performed in accordance with OECD Guideline 403. Group of rats (5/sex) were nose-only exposed for 4 hours to measured aerosol concentrations of 0, 1554, 3622, or 6597 mg/m<sup>3</sup> of the test substance. MMAD of the aerosol was ~2.4 µm and GSD was ~1.9. Animals were observed for 2 weeks after exposure. Endpoints included body weights, body temperature, clinical signs, and gross necropsy.

Two animals died at 3622 mg/m<sup>3</sup> and 4 died at 6597 mg/m<sup>3</sup>. Calculated LC50s were 5721 mg/m<sup>3</sup> in males and >6597 mg/m<sup>3</sup> in females. Treatment-related clinical signs at 1554 mg/m<sup>3</sup> included irregular breathing pattern, labored breathing pattern, tachypnea, bradypnea, breathing sounds, motility reduced, atony, piloerection, cyanosis, high-legged gait, and nasal discharge. Similar signs, plus tremor and squatting position were seen at higher concentrations. Tremor was seen only on the day of exposure. Slight high-legged gait was observed in males for 3 days after exposure and in females for 7 days after exposure. Squatting position was seen only on day 0. Abnormal grip strength, righting response, and other reflexes were reported on day 1 after exposure. It cannot be determined from this acute study whether some of these signs indicate a neurotoxic potential or reflect secondary effects to exposures proximate to or in the lethal range.

Body weight of survivors was transiently decreased after exposure and rectal temperature demonstrated hypothermia. Animals sacrificed at the end of the recovery period showed discoloration in the lungs. Findings at necropsy of animals found dead included foamy and/or white powder deposits in nostrils, inflated lungs with white foamy material in trachea, and hydrothorax.